AUTODOC CLUB

How to change front strut mount on **BMW E60** – replacement guide

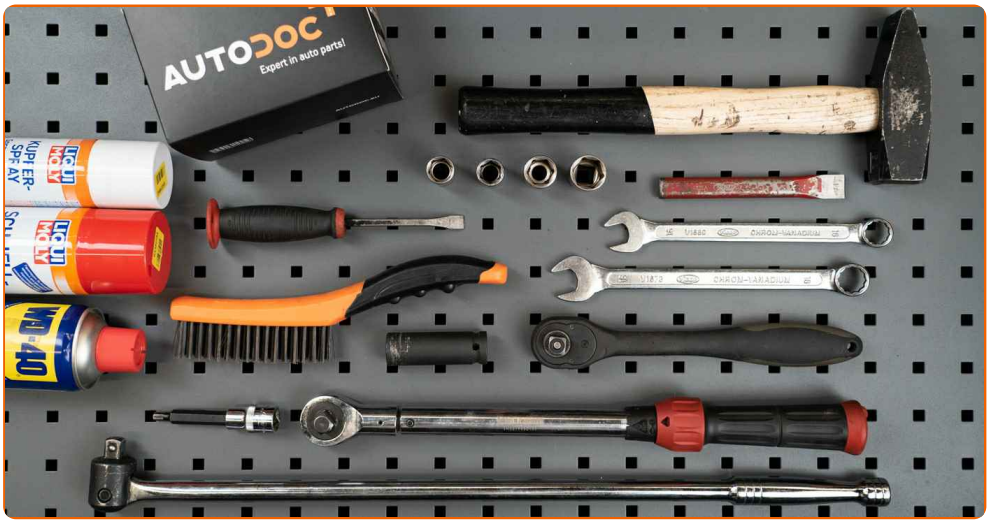
VIDEO TUTORIAL

Important!

This replacement procedure can be used for:
BMW 3 Touring (E91) 318d 2.0, BMW 5 Saloon (E39) 520i 2.0, BMW 5 Saloon (E39) 525tds 2.5, BMW 5 Saloon (E39) 523i 2.5, BMW 5 Saloon (E39) 528i 2.8, BMW 3 Saloon (E90) 318d 2.0, BMW 5 Touring (E39) 520i 2.0, BMW 5 Touring (E39) 523i 2.5, BMW 5 Saloon (E39) 525td 2.5, BMW 3 Saloon (E46) 318i 1.9, BMW 3 Saloon (E46) 328i 2.8, BMW 3 Saloon (E46) 320d 2.0, BMW 5 Touring (E39) 528i 2.8, BMW 3 Saloon (E46) 323i 2.5, BMW 3 Saloon (E46) 320i 2.0, (+ 227)

The steps may slightly vary depending on the car design.

REPLACEMENT: STRUT MOUNT – BMW E60. TOOLS YOU'LL NEED:



- Wire brush
- WD-40 spray
- Brake cleaner
- Copper grease
- HEX bit no.H5.
- Torx bit T50
- Combination spanner #13
- Combination spanner #18
- Combination spanner #21
- Drive socket # 13
- Drive socket # 16
- Drive socket # 18
- Drive socket # 21
- Wheel impact socket #17
- Ratchet wrench
- Torque wrench
- Tap wrench
- Flat Screwdriver
- Flat chisel
- Hammer
- Hydraulic strut spring compressor
- Hydraulic transmission jack
- Fender cover
- Wheel chock

BUY TOOLS

Replacement: strut mount – BMW E60. Tip from AUTODOC experts:

- Both shock struts of the front suspension should be replaced simultaneously.
- The replacement procedure is identical for the left and right shock struts of the front suspension.
- All work should be done with the engine stopped.

REPLACEMENT: STRUT MOUNT – BMW E60. TAKE THE FOLLOWING STEPS:

1 Secure the wheels with chocks.

2 Loosen the wheel mounting bolts. Use wheel impact socket #17.

3 Raise the front of the car and secure on supports.

4 Unscrew the wheel bolts.

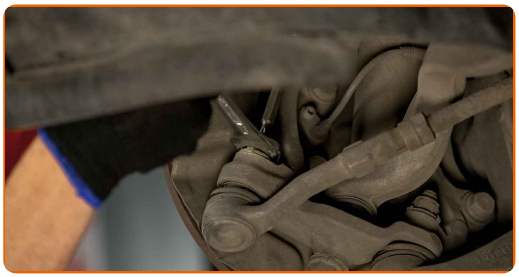
Replacement: strut mount – BMW E60. Tip:

- To avoid injury, hold up the wheel when unscrewing the bolts.

5 Remove the wheel.

6 Clean the fastener connecting the tie rod end to the steering knuckle. Use a wire brush. Use WD-40 spray.

7 Unscrew the end fastening nut to the steering knuckle. Use a combination spanner #21. Use Torx T50. Use a ratchet wrench.



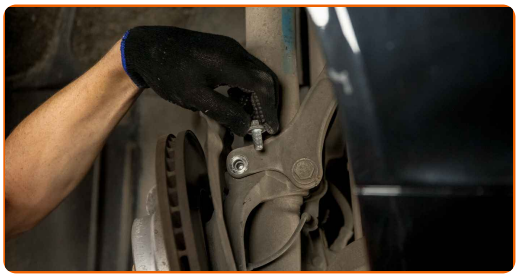
8 Disconnect the tie rod end from the steering knuckle.

9 Unscrew the ABS sensor fastening from the steering knuckle. Use HEX No.H5. Use a ratchet wrench.

10 Remove the ABS sensor from the steering knuckle.

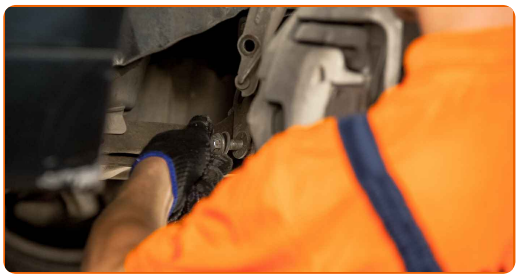
11 Unscrew the fastener of the stabiliser link bracket. Use a drive socket #16. Use a ratchet wrench.

12 Remove the fastening bolt.

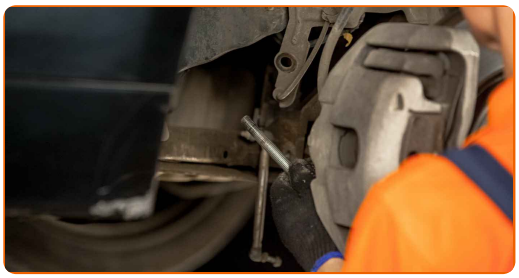


13 Clean the fasteners connecting the shock strut to the steering knuckle. Use a wire brush. Use WD-40 spray.

14 Unscrew the lower fastener connecting the shock strut to the steering knuckle. Use a combination spanner #18. Use a drive socket #18. Use a ratchet wrench.



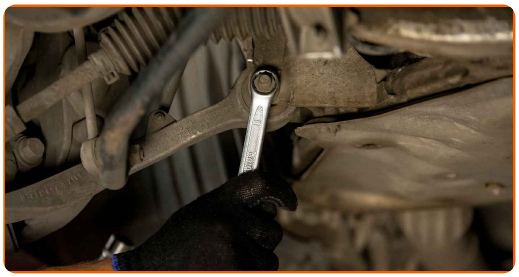
15 Remove the fastening bolt.



16 Remove the bracket from the shock absorber strut.

17 Clean the fasteners connecting the control arm to the subframe. Use a wire brush. Use WD-40 spray.

18 Unscrew the rear fastener connecting the control arm to the subframe. Use a combination spanner #18. Use a drive socket #18. Use a ratchet wrench. Use a tap wrench.

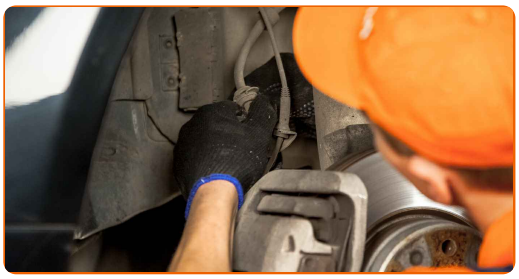


19 Remove the rear fastener of the control arm.

20 Detach the control arm.

21 Remove the bracket from the shock absorber strut.

22 Disconnect the brake hose. Use a flat screwdriver.

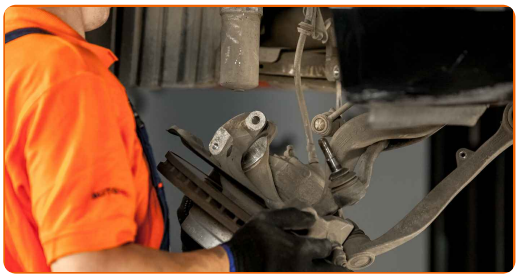


23 Detach the ABS wiring harness bracket. Use a flat screwdriver.

24 Detach the ABS sensor connector.

25 Release the lower fastener connecting the shock strut to the steering knuckle. Use a flat metal-working chisel. Use a hammer.

26 Disconnect the steering knuckle from the shock absorber strut.

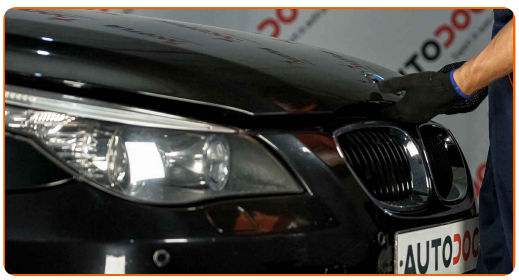


Replacement: strut mount – BMW E60. AUTODOC recommends:

- Make sure that the steering knuckle is supported.

27 Lower the car.

28 Open the bonnet.



29 Use a fender protection cover to prevent damaging paintwork and plastic parts of the car.

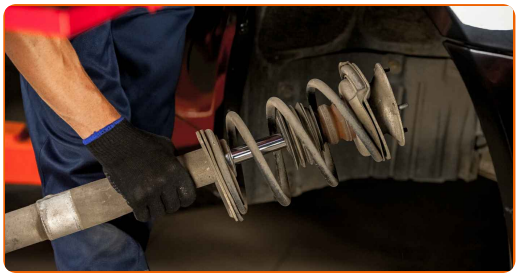
30 Clean the fasteners of the shock strut upper mount. Use a wire brush. Use WD-40 spray.

31 Unscrew the top fastening of the shock strut mount. Use a combination spanner #13. Use a drive socket #13. Use a ratchet wrench.

AUTODOC recommends:

- Important! Hold the suspension strut while unscrewing the fastening bolts. BMW E60

32 Remove the suspension strut.

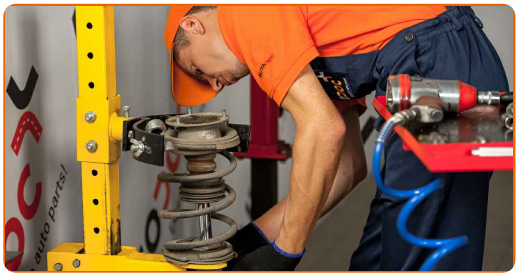


33 Set the shock absorber strut on the spring compressor tool.

Replacement: strut mount – BMW E60. Professionals recommend:

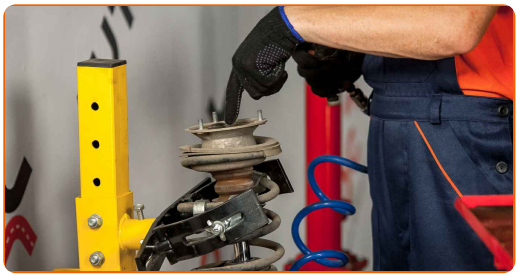
- Note that when using a spring compressor, spring coils need to be securely gripped, compressing the spring on the opposite sides.
- Ensure the correct position of the spring in the retainer.
- Make sure that the spring coils tightly entered the lock handles.

34 Compress the spring.

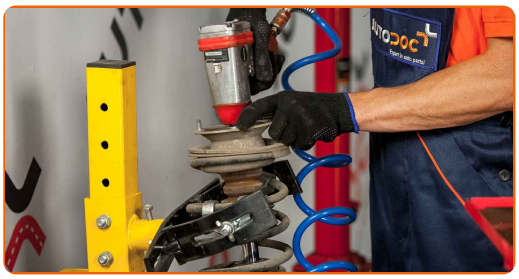


35 Remove the shock strut mount cap. Use a flat screwdriver.

36 Clean the shock absorber rod fastener. Use a wire brush. Use WD-40 spray.



37 Remove the strut piston rod nut. Use a drive socket #21. Use a ratchet wrench.



38 Remove the top strut mount.

Replacement: strut mount – BMW E60. AUTODOC experts recommend:

- Examine the shock absorber dust cap and the bump stop. Replace them if necessary.

39 Clean the mounting seat of the shock strut mount. Use a wire brush. Use WD-40 spray.

40 Treat the fasteners of the shock strut mount. Use copper grease.

41 Install a new top shock strut mount.

42 Tighten the shock strut piston rod nut. Use a drive socket #21. Use a torque wrench. Tighten it to 64 Nm torque.

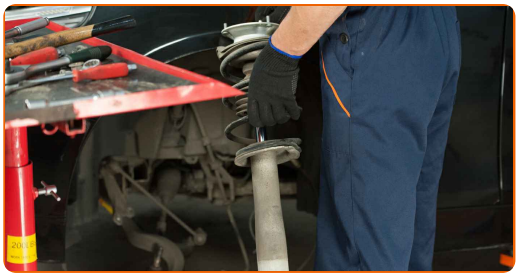
Replacement: strut mount – BMW E60. Tip from AUTODOC:

- Check to make sure the spring is positioned correctly. Avoid its misalignment.

43 Install the shock strut mount cap.

44 Decompress the spring.

45 Remove the assembled shock strut.



46 Install the shock strut into the wheel arch.

47 Screw the top fastening of the shock strut mount.

Replacement: strut mount – BMW E60. Tip:

- To avoid injuries, hold the shock strut when screwing the fastening bolts in.

48 Tighten the upper fastener of the shock absorber strut mount. Use a combination spanner #13. Use a drive socket #13. Use a torque wrench. Tighten it to 34 Nm torque.

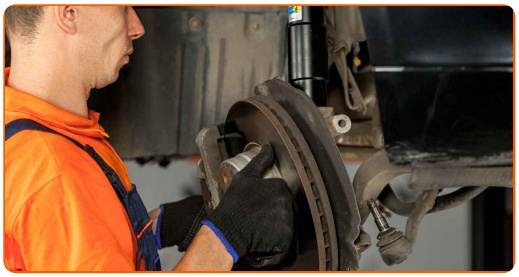
49 Remove the fender protection cover.

50 Close the hood.

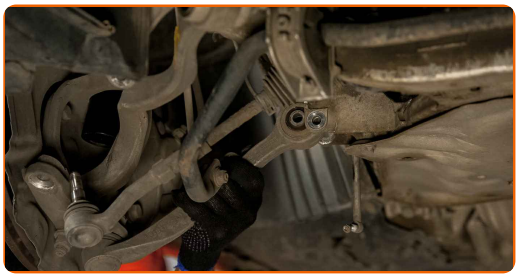
51 Raise the front of the car and secure on supports.

52 Treat the shock strut mounting seat on the steering knuckle. Use a wire brush. Use WD-40 spray.

53 Fix the shock absorber strut on the steering knuckle.

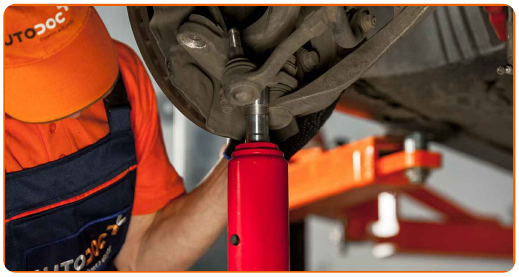


54 Attach the control arm.



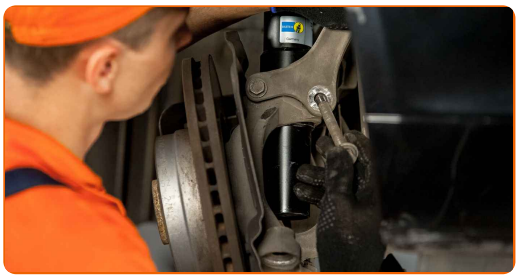
55 Install the rear fastener of the control arm.

56 Prop up the steering knuckle. Use a hydraulic transmission jack.

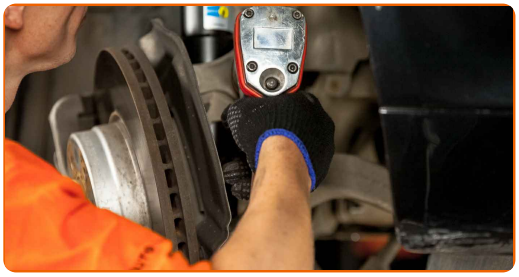


57 Install the bracket onto the shock absorber strut.

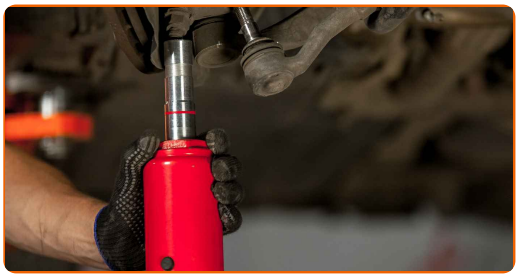
58 Install the fastening bolts.



59 Tighten the fastener of the stabiliser link bracket. Use a drive socket #16. Use a ratchet wrench. Use a torque wrench. Tighten it to 65 Nm torque.



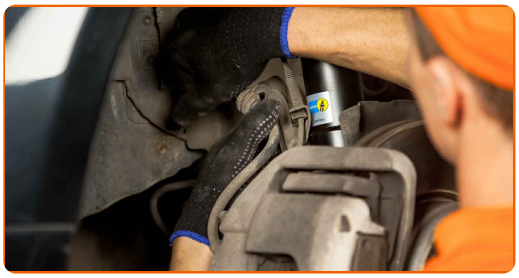
60 Remove the support from under the steering knuckle.



AUTODOC recommends:

- BMW E60 – Do not lower the transmission jack sharply to avoid damaging components and mechanisms of the car.

61 Install the bracket onto the shock absorber strut.

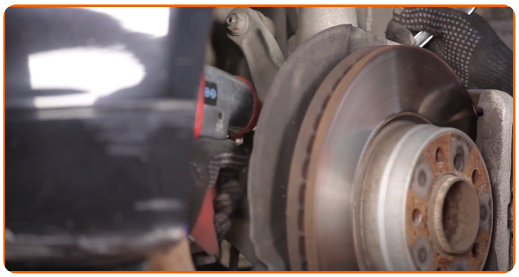


62 Fasten the ABS wiring harness bracket.

63 Attach the brake hose.

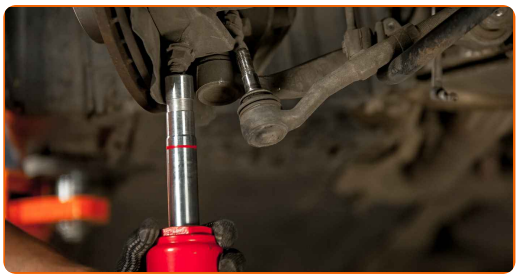
64 Attach the ABS sensor connector.

65 Tighten the lower fasteners connecting the shock strut to the steering knuckle. Use a combination spanner #18. Use a drive socket #18. Use a torque wrench. Tighten it to 81 Nm torque.



66 Screw the rear fastener connecting the control arm to the subframe. Use a hammer.

67 Prop up the steering knuckle. Use a hydraulic transmission jack.



68 Tighten the rear fastener of the control arm. Use a combination spanner #18. Use a drive socket #18. Use a torque wrench. Tighten it to 100 Nm torque.+90°

AUTODOC recommends:

- Important! Be sure to use new fasteners.

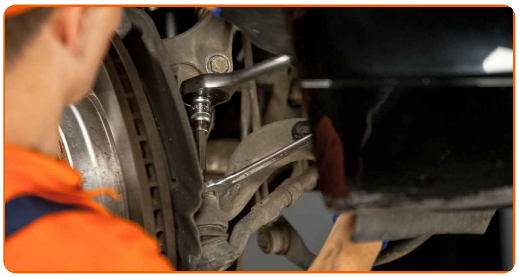
69 Remove the support from under the steering knuckle.

Replacement: strut mount – BMW E60. AUTODOC experts recommend:

- Lower the hydraulic transmission jack smoothly, without jerks, to avoid damaging assemblies and mechanisms.

70 Connect the tie rod end to the steering knuckle.

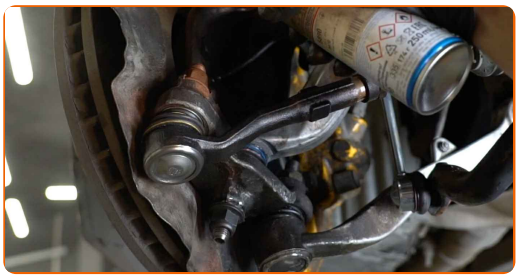
71 Tighten the fastening nut connecting the tie rod end to the steering knuckle. Use a combination spanner #21. Use Torx T50. Use a torque wrench. Tighten it to 165 nm torque.



72 Connect the ABS sensor to the steering knuckle.

73 Screw in the ABS sensor fastener. Use HEX No.H5. Use a ratchet wrench.

74 Treat the fastener connecting the tie rod end to the steering knuckle. Treat the shock strut fasteners. Treat the fasteners of the ball joint. Use copper grease.



75 Treat the surface where the brake disc contacts the wheel rim. Use copper grease.

76 Clean the brake disk surface. Use a brake cleaner.

Replacement: strut mount – BMW E60. Tip from AUTODOC experts:

- After applying the spray, wait a few minutes.

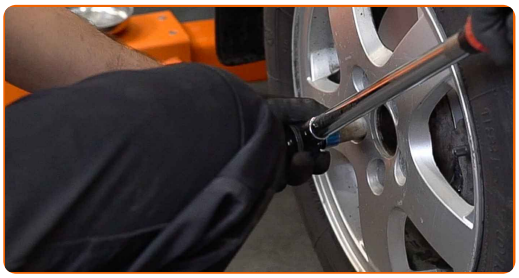
77 Install the wheel.

AUTODOC recommends:

- Important! Hold the wheel while screwing in the fastening bolts. BMW E60

78 Screw in the wheel bolts. Use wheel impact socket #17.

79 Lower the car and working in a cross order, tighten the wheel bolts. Use wheel impact socket #17. Use a torque wrench. Tighten it to 120 nm torque.



80 Remove the jacks and chocks.

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